In this arrangement the air is withdrawn from the condenser through the air-suction pipe i by means of the steam jet 2, which is supplied with exhaust steam from the driving turbine through the exhaust pipe 15 at a little above atmospheric pressure. The mixture of air and steam is delivered to the water ejector 4 through the pipe 3 at a slightly increased pressure; the steam is there condensed by the water jet, and the air is discharged into the tank 13, and through a special separator to the atmosphere. The water for the operation of the ejector is drawn from the tank by a centrifugal pump along the suction pipe 5, and is discharged along the pipe 6 to the water ejector. Here it acquires a velocity and momentum in the throat of the ejector sufficient to discharge against the pressure at the outlet (atmospheric pressure nearly), and carries the air with it.

The water of condensation is withdrawn from the condenser by a centrifugal " head " pump, and is delivered into communication with the standpipe 8. Another centrifugal pump, termed the " pressure " pump, takes this water and delivers it to the tank 13 along the pipe 9 and through the non-return valve 10. Any excess of water in the tank is discharged through the float-controlled valve 12 to the feed tanks or heater.

The steam ejector 2 may be operated by high-pressure steam if the pumps are motor-driven, the heat in any case, being returned to the boilers in the feed water, results in a rise of feed-water temperature of 5° to 8° F. at full load, and 10° to 16° F. at half-load.

The same firm have developed a combination of steam ejector and reciprocating air-pumps similar in principle to the Parsons vacuum augmentor, except that the steam used by the ejector is condensed by water of condensation from the main condenser delivered into a direct-contact auxiliary condenser from the hot well. One barrel of the independently-driven air-pump acts as a dry air-pump, taking the air from the auxiliary condenser, and the other barrel deals with the water of condensation. This arrangement is very stable in operation even with comparatively large leakages of air.

With the steam ejectors so far discussed, the ejector is only capable of

compressing the air and vapour through a limited range of pressure, and the final compression to atmospheric pressure is obtained by other means.

In recent years various attempts have been made to build steam ejectors capable of compressing and discharging the air against atmospheric pressure. For this purpose it is necessary to use at least two sets of steam nozzles in series. One arrangement, known as the Hick Breguet Ejectair, built by Messrs. Hick, Hargreaves, & Co., Ltd., is shown diagrammatically in fig. 27, applied to a low-level jet condenser. The air is cooled and devaporized as much as possible by the auxiliary water jet shown before leaving the condenser, and is then drawn by the primary steam jet A from the condenser, and delivered at a little higher pressure into the auxiliary condenser B. Here the steam used by the primary jet is condensed by the injection water supplied as shown. The air is then compressed by the secondary steam ejector c and delivered against atmospheric pressure. The heat in this steam may be recovered by a feed-heater. The water used in the auxiliary